



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2022-0888; Project Identifier MCAI-2021-01211-R; Amendment 39-22191; AD 2022-20-07]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Airbus Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is superseding Airworthiness Directive (AD) 2021-10-10 for all Airbus Helicopters Model SA330J helicopters. AD 2021-10-10 required repetitively inspecting the main gearbox (MGB) particle detector and the MGB bottom housing (oil sump) for metal particles, analyzing any metal particles that are found, and replacing the MGB if necessary. Since the FAA issued AD 2021-10-10, additional review concluded that installing an improved planet gear assembly is necessary. This AD continues to require repetitively inspecting the MGB particle detector and the MGB bottom housing (oil sump) for metal particles, and analyzing any metal particles that are found, and also requires replacing the planet gear assembly and repetitively inspecting and establishing an airworthiness limitation for that assembly as specified in a European Union Aviation Safety Agency (EASA) AD, which is incorporated by reference. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:**

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0888; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference:*

- For EASA material that is incorporated by reference (IBR) in this final rule, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; phone: +49 221 8999 000; email: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu); Internet: [easa.europa.eu](https://easa.europa.eu). You may find the EASA material on the EASA website at [ad.easa.europa.eu](https://ad.easa.europa.eu).

- You may view this this material at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0888.

**FOR FURTHER INFORMATION CONTACT:** Mahmood G. Shah, Aviation Safety Engineer, Fort Worth ACO Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; phone: 817-222-5538; email: [mahmood.g.shah@faa.gov](mailto:mahmood.g.shah@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2021-10-10, Amendment 39-21543 (86 FR 27271, May 20, 2021)

(AD 2021-10-10). AD 2021-10-10 applied to all Airbus Helicopters Model SA330J helicopters. AD 2021-10-10 required repetitively inspecting the MGB particle detector and the MGB bottom housing (oil sump) for metal particles, analyzing any metal particles that are found, and replacement of the MGB if necessary. AD 2021-10-10 was prompted by EASA AD 2018-0272, dated December 13, 2018 (EASA AD 2018-0272), issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for all Airbus Helicopters Model SA 330 J helicopters. The FAA issued AD 2021-10-10 to address failure of an MGB second stage planet gear, which could result in failure of the MGB and subsequent loss of control of the helicopter.

The NPRM published in the *Federal Register* on July 21, 2022 (87 FR 43453). The NPRM was prompted by EASA AD 2021-0239, dated November 5, 2021 (EASA AD 2021-0239). EASA AD 2021-0239 supersedes EASA AD 2018-0272 and continues to require repetitively inspecting the MGB particle detector and the MGB bottom housing (oil sump) for metal particles, and analyzing any metal particles that are found. EASA AD 2021-0239 also requires installing an MGB equipped with a new second-stage planet gear assembly part number (P/N) 330A32-9861-02 (mod 0751091) or modifying an affected MGB by having the second stage planet gear assembly replaced by an Airbus Helicopters qualified technician; and extends the compliance time for the repetitive MGB bottom housing (oil sump) inspections and establishes a life limit for post-mod 0751091 helicopters.

You may examine EASA AD 2021-0239 in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0888.

In the NPRM, the FAA proposed to require accomplishing the actions specified in EASA AD 2021-0239, described previously, as incorporated by reference, except for any

differences identified as exceptions in the regulatory text of this AD and except as discussed under “Differences Between this AD and the EASA AD.”

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received no comments on the NPRM or on the determination of the costs.

### **Conclusion**

These products have been approved by the aviation authority of another country and are approved for operation in the United States. Pursuant to the FAA’s bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in its AD referenced above. The FAA reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these products. Except for minor editorial changes, this AD is adopted as proposed in the NPRM.

### **Related Service Information under 1 CFR Part 51**

The FAA reviewed EASA AD 2021-0239, which supersedes EASA AD 2018-0272 and continues to require repetitively inspecting the MGB particle detector and the MGB bottom housing (oil sump) for metal particles, and analyzing any metal particles that are found. EASA AD 2021-0239 also requires installing an MGB equipped with a new second-stage planet gear assembly P/N 330A32-9861-02 (mod 0751091) or modifying an affected MGB by having the second stage planet gear assembly replaced by an Airbus Helicopters qualified technician; and extends the compliance time for the repetitive MGB bottom housing (oil sump) inspections and establishes a life limit for post-mod 0751091 helicopters.

This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

## **Other Related Service Information**

The FAA reviewed Airbus Helicopters Alert Service Bulletin (ASB) No. SA330-05.103, Revision 3, dated October 4, 2021. This service information specifies procedures for checking (inspecting) the MGB particle detector and the bottom housing (oil sump) to ensure that there are no particles, and for particle analysis.

The FAA also reviewed Airbus Helicopters ASB No. SA330-65.139, Revision 0, dated October 4, 2021 (ASB SA330-65.139). This service information specifies procedures for installing an MGB equipped with a new second-stage planet gear assembly P/N 330A32-9861-02 (mod 0751091) and the alternate action of having the second stage planet gear assembly replaced by an Airbus Helicopters qualified technician. The new second stage planet gear assembly has improved stress and fatigue characteristics. ASB SA330-65.139 also establishes an airworthiness limitation of 2,750 flight hours for all post-mod 0751091 planet gear assemblies.

## **Differences Between this AD and the EASA AD**

EASA AD 2021-0239 requires certain actions be done after the last flight of the day or “ALF,” whereas this AD requires doing those actions before the first flight of the day. EASA AD 2021-0239 requires contacting the manufacturer if unsure about the characterization of the particles collected, whereas this AD does not. If there are any 16NCD13 particles, EASA AD 2021-0239 requires contacting the manufacturer and sending a 1-liter sample of oil to the manufacturer, whereas this AD does not. EASA AD 2021-0239 requires returning certain parts to the manufacturer, whereas this AD does not. EASA AD 2021-0239 allows the option of modifying an affected MGB by having the second stage planet gear assembly replaced by an Airbus Helicopters qualified technician, whereas this AD allows that modification with certain approvals instead. EASA AD 2021-0239 allows different methods to accomplish the oil sump inspection,

whereas this AD requires a certain method. EASA AD 2021-0239 requires discarding certain parts, whereas this AD requires removing those parts from service instead.

### **Costs of Compliance**

The FAA estimates that this AD affects 15 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Inspecting the MGB particle detector takes about 0.25 work-hour for an estimated cost of \$21 per helicopter and \$315 for the U.S. fleet, per inspection cycle. Inspecting the MGB bottom housing (oil sump) takes up to about 4 work-hours for an estimated cost of \$340 per helicopter and \$5,100 for the U.S. fleet, per inspection cycle.

Replacing a second stage planet gear assembly takes about 100 work-hours and parts cost about \$121,140 for an estimated cost of \$129,640 per helicopter and \$1,944,600 for the U.S. fleet, per replacement cycle. Alternatively, replacing an MGB takes about 100 work-hours and parts cost about \$600,000 (overhauled) for an estimated cost of \$608,500 per helicopter.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

The FAA has determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive 2021-10-10, Amendment 39-21543 (86 FR 27271, May 20, 2021); and

- b. Adding the following new airworthiness directive:

**2022-20-07 Airbus Helicopters:** Amendment 39-22191; Docket No. FAA-2022-0888;

Project Identifier MCAI-2021-01211-R.

**(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

This AD replaces AD 2021-10-10, Amendment 39-21543 (86 FR 27271, May 20, 2021).

**(c) Applicability**

This AD applies to all Airbus Helicopters Model SA330 J helicopters, certificated in any category.

**(d) Subject**

Joint Aircraft Service Component (JASC) Code: 6320, Main Rotor Gearbox.

**(e) Unsafe Condition**

This AD was prompted by a failure of a second stage planet gear installed in the main gearbox (MGB). The FAA is issuing this AD to address failure of an MGB second stage planet gear, which could result in failure of the MGB and subsequent loss of control of the helicopter.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Requirements**

Except as specified in paragraphs (h) and (i) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, European Union Aviation Safety Agency (EASA) AD 2021-0239, dated November 5, 2021 (EASA AD



2021-0239).

**(h) Exceptions to EASA AD 2021-0239**

(1) Where EASA AD 2021-0239 refers to its effective date, this AD requires using the effective date of this AD.

(2) Where EASA AD 2021-0239 refers to March 30, 2018 (the effective date of EASA AD 2018-0065, dated March 23, 2018), this AD requires using the effective date of this AD.

(3) Where EASA AD 2021-0239 refers to December 27, 2018 (the effective date of EASA AD 2018-0272, dated December 13, 2018), this AD requires using the effective date of this AD.

(4) Where EASA AD 2021-0239 refers to flight hours (FH), this AD requires using hours time-in-service (TIS).

(5) Where EASA AD 2021-0239 specifies actions be done after the last flight of the day or “ALF,” this AD requires doing those actions before the first flight of the day.

(6) Where paragraph (1) of EASA AD 2021-0239 specifies to inspect the MGB particle detector “in accordance with the instructions of Section 3 of the inspection ASB” for this AD replace that phrase with “by following the Accomplishment Instructions, paragraph 3.B.2.a., of the inspection ASB.”

(7) Where paragraph (2) of EASA AD 2021-0239 specifies to inspect the MGB bottom housing (oil sump) “in accordance with the instructions of Section 3 of the inspection ASB” for this AD replace that phrase with “by following the Accomplishment Instructions, paragraph 3.B.2.b. of the inspection ASB.”

(8) Where the service information referenced in EASA AD 2021-0239 specifies to perform a metallurgical analysis and contact the manufacturer if unsure about the characterization of the particles collected, this AD does not require contacting the

manufacturer to determine the characterization of the particles collected.

(9) Although the service information referenced in EASA AD 2021-0239 specifies that if any 16NCD13 particles are found to contact the manufacturer and send a 1-liter sample of oil to the manufacturer, this AD does not require that action.

(10) Although the service information referenced in EASA AD 2021-0239 specifies returning certain parts to the manufacturer, this AD does not require that action.

(11) Where paragraph (5) of EASA AD 2021-0239 allows modifying an affected MGB by having the second stage planet gear assembly replaced by an Airbus Helicopters qualified technician, this AD does not allow that action; instead of that action, this AD allows modifying an affected MGB in accordance with a method approved by the Manager, General Aviation & Rotorcraft Section, International Validation Branch, FAA; or EASA; or Airbus Helicopters EASA Design Organization Approval (DOA). If approved by the DOA, the approval must include the DOA-authorized signature.

(12) Although the service information referenced in EASA AD 2021-0239 specifies discarding certain parts, this AD requires removing the parts from service.

(13) The “Remarks” section of EASA AD 2021-0239 does not apply to this AD.

**(i) No Reporting Requirement**

Although the service information referenced in EASA AD 2021-0239 specifies to submit certain information to the manufacturer, this AD does not include that requirement.

**(j) Special Flight Permit**

Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the helicopter can be modified, provided that the helicopter is operated during the day, under visual flight rules, and with no passengers onboard.

**(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (l) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(l) Related Information**

For more information about this AD, contact Mahmood G. Shah, Aviation Safety Engineer, Fort Worth ACO Branch, FAA, 10101 Hillwood Pkwy., Fort Worth, TX 76177; phone: 817-222-5538; email: mahmood.g.shah@faa.gov.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) European Union Aviation Safety Agency (EASA) AD 2021-0239, dated November 5, 2021.

(ii) [Reserved]

(3) For EASA AD 2021-0239, contact EASA, Konrad-Adenauer-Ufer 3, 50668 Cologne, Germany; telephone +49 221 8999 000; email ADs@easa.europa.eu; Internet

easa.europa.eu. You may find the EASA material on the EASA website at  
ad.easa.europa.eu.

(4) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. This material may be found in the AD docket at regulations.gov by searching for and locating Docket No. FAA-2022-0888.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov), or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on September 16, 2022.

Christina Underwood, Acting Director,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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